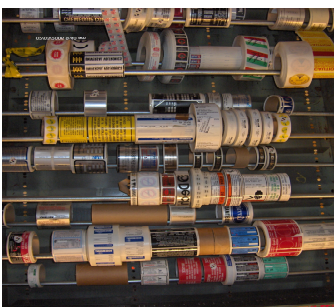


Technical Assistance *Revisited*

Decorated Products, Inc. Etchant Regeneration

The Technical Assistance Revisited case studies are the result of an effort to measure the effectiveness of the Commonwealth's program of helping companies to reduce toxics use through onsite visits.



Decorated Products Labels

Company Quotes

"The [etching] line employed six people. If it weren't for OTA there is a good chance those jobs wouldn't have been there." -
Jeff Glaze, President of Decorated Products



Etching Machine

The Massachusetts Office of Technical Assistance and Technology (OTA) offers assistance in reducing the use of toxic materials, improving environmental performance and promoting economic growth.

Summary

Decorated Products, Inc. began using ozone to regenerate useable ferric chloride from its waste etchant, leading to reductions of approximately 35,000 gallons in ferric chloride purchases, and 6,000 gallons of hazardous waste per year over a ten-year period. These reductions allowed the company to realize savings of nearly \$220,000 per year from reduced etchant purchases and eliminate wastewater discharge costs over the same period. In addition, Decorated Products was able to retain a manufacturing line, saving 6 jobs, and to settle their compliance issues.

Background

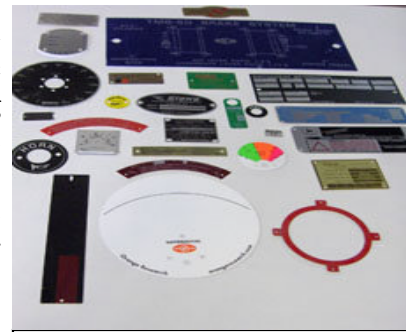
Decorated Products, Inc., located in Westfield, Massachusetts, employs 80 people in the design and manufacture of high quality nameplates, dials, decals, labels and signs. In 1991, Decorated Products, Inc. purchased an etching line from another company, which required the use of ferric chloride in its operations.

Toxics Use Reduction

Decorated Products discovered that the etching line they purchased exceeded copper discharge limits into the Westfield Publicly Owned Treatment Works (POTW). The company subsequently received a notice of violation by the US Environmental Protection Agency (EPA).

Decorated Products needed to reduce their copper discharges to comply with industrial pretreatment standards. The company first considered closing down the etchant line, before contacting OTA for assistance. OTA visited the facility and conducted research for possible alternatives including the careful addition of ozone, which would allow the company to continuously reuse its spent etchant bath. OTA and Decorated Products devised a series of bench scale tests to determine if adding ozone would work with their process.

Once tests confirmed that the process would work, Decorated Products moved ahead with full scale implementation. The change in process resulted in several benefits for the company, including reduced waste generation and etchant purchases. In addition, the company eliminated wastewater discharges, which allowed them to resolve their compliance issues. Decorated Products was also able to free up resources from compliance to production, which further improved the company's competitive position.



Decorated Products Name Plates

Results

Reductions

The process change the company made reduced their hazardous waste from 120 drums of etchant waste to one drum per year (close to 6,000 gallons per year), eliminating wastewater discharges from the manufacturing line. The company also purchased approximately 700 fewer drums of etchant per year, a reduction of more than 35,000 gallons.

Economics

Adding ozone to their etchant line led to annual savings in excess of \$20,000 from reduced hazardous waste management costs and \$200,000 from reduced material purchases. The company also received mitigation for their compliance penalties as a result of their process change. The company was able to invest compliance resources towards production, which improved their competitive position.

Technical Assistance Impact

Over a 10-year period (1992-2002), adopting the suggestion to add ozone for etchant regeneration allowed the company to:

- Eliminate 60,000 gallons of hazardous waste
- Reduce etchant purchases by 350,000 gallons
- Resolve compliance issues
- Retain a manufacturing line and save 6 jobs
- Save more than \$2,000,000 in reduced purchases and disposal fees
- Free up resources for investment in production

The Office of Technical Assistance and Technology (OTA) offers onsite assistance service that is available to toxics users in Massachusetts. OTA staff are trained specialists in toxics use reduction and environmental compliance. They have many years of experience in working with all forms of industrial production, as well as other facilities where toxics are used. For more information about OTA please visit: www.mass.gov/envir/ota or call 617-626-1060.